

I Claim:

1. A ranging and warning device comprising:
  - (a) means for emitting a beam of directed energy waves,
  - (b) means for receiving said directed energy waves reflected by an object,
  - (c) means for calculating the distance between an object and said means for detecting,
  - (d) means for recording data generated by said reflected directed energy waves.
2. A ranging and warning device of Claim 1 further comprising means for varying direction of said means for emitting whereby direction of said directed energy waves emitted by said means for emitting may be varied by said means for varying causing said directed energy waves to form a pattern.
3. A ranging and warning device of Claim 2 wherein said means for emitting a beam of directed energy waves may be pulsed on and off whereby said means for varying uses said means for emitting to form a pattern of points of reflected pulsed directed energy.
4. A ranging and warning device of Claim 3 further comprising a means for computing whereby said means for computing stores templates of data generated by a particular object that reflects pulsed directed energy, said means of computing compares said stored templates of data to data recorded by said means for recording.
5. A ranging and warning device of Claim 4 wherein said means for emitting a beam of directed energy waves is laser light.
6. A ranging and warning device of Claim 5 wherein said means for varying further includes a

means for varying direction of said pulsed laser light in a vertical direction and means for varying direction of said pulsed laser light in a horizontal direction.

7. A ranging and warning device of Claim 6 wherein said pattern of reflected points, if connected, form a sine wave.

8. A ranging and warning device of Claim 7 wherein said means for computing controls said means for varying whereby said means for computing may use said means for varying to change said means for emitting so that a amplitude and a frequency of said sine wave pattern of connected points may be changed thereby permitting adjustments in the resolution in said sine wave pattern of connected points.

9. A ranging and warning device of Claim 8 further comprising an output display controlled by said means for computing whereby a user may observe said output display.

10. A ranging and warning device of Claim 9 wherein said output display further includes a sound generator for generating a plurality of sounds.

11. A ranging and warning device of Claim 10 wherein said output display includes a plurality of distinct sounds whereby said means for computing causes said output display to make a particular distinct sound whenever said stored template of data matches recorded data.

12. A ranging and warning device of Claim 11 wherein said means for computing uses said means for varying to change amplitude and frequency of said sine wave patterns wherein said stored template of data matches recorded data whereby said ranging and warning device focuses said beam of directed energy waves on said particular object.

13. A ranging and warning device of Claim 4 wherein said means for emitting a beam of directed energy waves is radio waves of a predetermined frequency.
14. A ranging and warning device of Claim 13 wherein said means for varying further includes a means for varying direction of said pulsed radio waves in a vertical direction and means for varying direction of said pulsed radio waves in a horizontal direction.
15. A ranging and warning device of Claim 14 wherein said pattern of reflected points, if connected, form a sine wave.
16. A ranging and warning device of Claim 15 wherein said means for computing controls said means for varying whereby said means for computing may use said means for varying to change said means for emitting so that a amplitude and a frequency of said sine wave pattern of connected points may be changed thereby permitting adjustments in the resolution in said sine wave pattern of connected points.
17. A ranging and warning device of Claim 16 further comprising an output display controlled by said means for computing whereby a user may observe said output display.
18. A ranging and warning device of Claim 17 wherein said output display further includes a sound generator for generating a plurality of sounds.
19. A ranging and warning device of Claim 18 wherein said output display includes a plurality of distinct sounds whereby said means for computing causes said output display to make a particular distinct sound whenever said stored template of data matches recorded data.

20. A ranging and warning device of Claim 19 wherein said means for computing uses said means for varying to change amplitude and frequency of said sine wave patterns wherein said stored template of data matches recorded data whereby said ranging and warning device focuses said beam of directed energy waves on said particular object.
21. A ranging and warning device of Claim 4 wherein said means for emitting a beam of directed energy waves is sound waves of a predetermined frequency.
22. A ranging and warning device of Claim 21 wherein said means for varying further includes a means for varying direction of said pulsed sound waves in a vertical direction and means for varying direction of said pulsed sound waves in a horizontal direction.
23. A ranging and warning device of Claim 22 wherein said pattern of reflected points, if connected, form a sine wave.
24. A ranging and warning device of Claim 23 wherein said means for computing controls said means for varying whereby said means for computing may use said means for varying to change said means for emitting so that a amplitude and a frequency of said sine wave pattern of connected points may be changed thereby permitting adjustments in the resolution in said sine wave pattern of connected points.
25. A ranging and warning device of Claim 24 further comprising an output display controlled by said means for computing whereby a user may observe said output display.
26. A ranging and warning device of Claim 25 wherein said output display further includes a

sound generator for generating a plurality of sounds.

27. A ranging and warning device of Claim 26 wherein said output display includes a plurality of distinct sounds whereby said means for computing causes said output display to make a particular distinct sound whenever said stored template of data matches recorded data.

28. A ranging and warning device of Claim 27 wherein said means for computing uses said means for varying to change amplitude and frequency of said sine wave patterns wherein said stored template of data matches recorded data whereby said ranging and warning device focuses said beam of directed energy waves on said particular object.

29. A method for determining a distance between a device and an object and taking action in response to that determination of a distance comprising the steps of:

- (a) emitting a beam of directed energy waves;
- (b) receiving said directed energy waves when reflected by an object;
- (c) calculating the distance between an object and the device;
- (d) generating data from said reflected directed energy waves;
- (e) recording said data.

30. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 29 further comprising the step of varying the direction of said emitted beam of directed energy waves.

31. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 30 further comprising the step of pulsing said emitted beam of directed energy waves on and off whereby said reflected directed energy waves is

used to generate a set of data points.

32. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 31 further comprising storing templates of data generated by reflected pulsed directed energy from a particular object and comparing said stored templates of data generated by a particular object to data points generated by said reflected directed energy waves thereby determining if said template matches said data points.

33. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 32 wherein said step of emitting a beam of directed energy waves is emitting laser light.

34. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 33 wherein said step of varying the direction includes varying direction of said laser light on a vertical plane and varying direction of said laser light on a horizontal plane.

35. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 34 wherein said set of data points of reflected laser light if connected form a sine wave.

36. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 35 which includes a step of providing a controlling computer to control said step of varying the direction so that an amplitude and frequency of said sine wave pattern of reflected data points may be changed thereby permitting adjustment in the resolution of said pattern of reflected data points.

37. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 36 wherein said step of providing a controlling computer further comprises a step of providing an output display for said controlling computer.

38. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 37 wherein said step of providing an output display further includes providing a sound generator for generating a plurality of sounds.

39. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 38 wherein said step of providing a sound generator for generating a plurality of sounds further includes the step of providing a plurality of distinct sounds whereby said controlling computer causes said sound generator to make a particular distinct sound whenever said pattern of reflected data points matches a template of stored data points.

40. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 39 wherein said step of providing a controlling computer further comprises the step of using said controlling computer to vary the amplitude and frequency of said sine wave patterns whenever said stored template of data matches said reflected data points whereby said beam of directed energy wave is aimed at said particular object.

41. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 32 wherein said step of emitting a beam of

directed energy waves is emitting radio waves of a predetermined frequency.

42. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 41 wherein said step of varying the direction includes varying direction of said radio waves on a vertical plane and varying direction of said radio waves on a horizontal plane.

43. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 42 wherein said set of data points of reflected laser light if connected form a sine wave.

44. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 43 which includes a step of providing a controlling computer to control said step of varying the direction so that an amplitude and frequency of said sine wave pattern of reflected data points may be changed thereby permitting adjustment in the resolution of said pattern of reflected data points.

45. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 44 wherein said step of providing a controlling computer further comprises a step of providing an output display for said controlling computer.

46. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 45 wherein said step of providing an output display further includes providing a sound generator for generating a plurality of sounds.



47. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 46 wherein said step of providing a sound generator for generating a plurality of sounds further includes the step of providing a plurality of distinct sounds whereby said controlling computer causes said sound generator to make a particular distinct sound whenever said pattern of reflected data points matches a template of stored data points.

48. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 47 wherein said step of providing a controlling computer further comprises the step of using said controlling computer to vary the amplitude and frequency of said sine wave patterns whenever said stored template of data matches said reflected data points whereby said beam of directed energy wave is aimed at said particular object.

49. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 48 wherein said step of emitting a beam of directed energy waves is emitting sound waves.

50. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 49 wherein said step of varying the direction includes varying direction of said sound waves on a vertical plane and varying direction of said laser light on a horizontal plane.

51. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 50 wherein said set of data points of reflected laser light if connected form a sine wave.

52. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 51 which includes a step of providing a controlling computer to control said step of varying the direction so that an amplitude and frequency of said sine wave pattern of reflected data points may be changed thereby permitting adjustment in the resolution of said pattern of reflected data points.

53. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 52 wherein said step of providing a controlling computer further comprises a step of providing an output display for said controlling computer.

54. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 53 wherein said step of providing an output display further includes providing a sound generator for generating a plurality of sounds.

55. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 54 wherein said step of providing a sound generator for generating a plurality of sounds further includes the step of providing a plurality of distinct sounds whereby said controlling computer causes said sound generator to make a particular distinct sound whenever said pattern of reflected data points matches a template of stored data points.

56. A method for determining a distance between a device and an object and taking action in response to that determination of a distance of Claim 55 wherein said step of providing a controlling computer further comprises the step of using said controlling computer to vary the

amplitude and frequency of said sine wave patterns whenever said stored template of data matches said reflected data points whereby said beam of directed energy wave is aimed at said particular object.

57. A portable laser ranging and warning device comprising:
- (a) a laser emitter adjustably aimed whereby an aimed pulse of laser light emitted by said emitter may be sequentially directed in a plurality of directions;
  - (b) a receiver for receiving reflected laser light from an object, said reflected laser light originally emitted by said laser emitter;
  - (c) a computer including a memory, a calculator, a timer, and a controller; said computer operatively connected to said laser emitter and said receiver;
  - (d) at least one pattern of stored data points in said computer memory whereby said computer can compare data points generated by said receiver from said reflected laser light and thereby recognize correlations between said pattern of stored data points and said generated data points;
  - (e) an output operatively connected to said computer.

58. A portable laser ranging and warning device of Claim 57 wherein said computer controls said laser emitter to emit sequential pulses of laser lights varying in both horizontal and vertical directions whereby said sequential pulses of laser lights, if connected, form a sine wave.

59. A portable laser ranging and warning device of Claim 58 wherein said computer may change said aimed pulses of laser light so that said sine wave may be adjusted both for amplitude and frequency.